

ABSTRACT

This is a catalyst suitable for a diesel particulate filter (DPF) that traps particulate matter (PM) present in diesel engine exhaust, being a diesel engine exhaust gas particulate matter oxidation catalyst using a perovskite-type composite oxide that has an NO adsorption domain over the range of 200–450°C. This catalyst induces low-temperature combustion of PM but does not use noble metals so it is inexpensive and its constituent materials are not volatile at exhaust gas temperatures so it has superior durability. The perovskite-type composite oxide contains essentially no Na and is represented by the structural formula RTO_3 , where R comprises one or more elements selected from a group made up of La, Sr, Ba, Ca and Li, and T comprises one or more elements selected from a group made up of Mn, Fe, Co, Cu, Zn, Ga, Zr, Mo, Mg, Al and Si.

IN THE FIGURES

FIG. 1

Intensity (cps)

5 FIG. 2

Gas concentration (ppm)

Temperature (°C)

FIG. 3

10 Working Example 2 Comparative Example 1

Working Example 1

CO₂ concentration (ppm)

Temperature (°C)

15 FIG. 4

Working Example 3 Comparative Example 1

Working Example 2

CO₂ concentration (ppm)

Temperature (°C)